1. A communication system in which a first communication station communicates data to at least a second communication station, the data including a first data-type portion communicated upon a first channel and at least a second data-type portion communicated upon at least a second channel, said communication system characterized by apparatus for estimating a channel phase characteristic associated with the first and at least second channels, said apparatus comprising:

a first data type operator coupled to receive indications of the first data-type portion sent to the second communication station upon the first channel, said first data-type operator for operating upon the first data-type to form a representation of the first-type data portion subsequent to communication upon the first channel;

a second data-type operator coupled to receive indications of the second data-type portion sent to the second communication station upon the second channel, said second data-type operator for operating upon the second data-type to form a representation of the second-type data portion subsequent to communication upon the second channel; and

a channel phase estimator coupled to said first data-type operator to receive the representations of the first data-type portion and coupled to said second data-type operator to receive the representation of the second data-type portion, said channel phase estimator for estimating the channel phase responsive to values of the representations of both of the first and second data-type portions, respectively.

2. The apparatus of claim 1 wherein the communication system comprises a radio communication system which defines a pilot channel and a MAC (Medium Access

Control) channel, the pilot channel forming the first channel and the MAC channel forming the second channel, the first data-type data portion formed of a pilot seignal and the second data-type data portion formed of MAC-data, and wherein the channel phase estimated by said channel phase estimator is responsive to values of representations of both of the pilot signal and of the MAC-data.

3. The apparatus of claim 2 wherein said first data-type operator further comprises a pilot-signal weighter for weighting the indications of the pilot signal by a first selected weighting factor, the indications of the pilot signal, once weighted, forming the representations of the pilot signal.

4. The apparatus of claim 3 wherein the second data-type further comprises a MAC-data weighter for weighting the indications of the MAC-data by a second selected weighting factor, the indications of the MAC-data, once weighted, forming the representation of the MAC-data.

5. The apparatus of claim 4 further comprising a selector coupled to said pilot-signal weighter and to said MAC-data weighter, said selector for selecting the first and second weighting factors, respectively, by which indications of the pilot signal and of the MAC-data are weighted, respectively.

6. The apparatus of claim 5 wherein selection by said selector of the first and second weighting factors is made according to a selected selection criteria; the selected

selection criteria for maximizing a value of the estimated phase estimated by said estimator.

7. The apparatus of claim 1 wherein the communication system comprises a cellular communication system operable pursuant to an IS-95 (Interim Standard – 1995) communication standard in which 1xEV-DO technology is deployed, wherein the first data-type portion communicated upon the first channel comprises a pilot signal communicated upon a time slot defining a pilot channel, wherein the second data-type portion communicated upon the second channel comprises MAC-data signal communicated upon a MACdata channel and wherein the channel phase estimated by said channel phase estimator is formed responsive to values of the pilot signal and to values of the MAC-data signal.

8. The apparatus of claim 7 wherein the representation of the MAC-data signal formed by said second data-type operator and used by said channel phase estimator to estimate the channel phase is free of values of MAC-data.

9. The apparatus of claim 8 wherein said second data-type operator operates to remove values of the MAC-data out of the MAC-data signal.

10. The apparatus of claim 9 wherein the first communication station comprises a network station; wherein the communication system further comprises a plurality of second communication stations, each of the second communication stations

comprising a mobile station, and wherein the MAC-data signal contains a plurality of MAC-data signal portions sent to a correspondingly plurality of the mobile stations, and wherein the channel phase estimate formed by said channel phase estimator is formed responsive to more than one of the MAC-data signal portions, free of values of the MAC-data.

11. The apparatus of claim 10 wherein said second data-type operator operates to remove the MAC-data out of each of the MAC-data signal portions of the MAC-data signal of the more than one MAC-data signal portions.

12. The apparatus of claim 11 wherein the representations of the MAC-data signal portions generated by said second data-type operator are representative of a combined total of channel estimates responsive to communication of each of the more than one MAC-data signal portions.

13. In a method of communicating in a communication system in which a first communication station communicates data to at least a second communication station, the data including a first data-type portion communicated upon a first channel and at least a second data-type portion upon at least a second channel, an improvement of a method for estimating a channel phase characteristic associated with the first and at least second channels, said method comprising:

operating upon indications of the first data-type portion sent to the second communication station upon the first channel, thereby to form a representation of the first-type data portion subsequent to communication upon the first channel;

operating upon indications of the second data-type portion sent to the second communication station upon the second channel, thereby to form a representation of the second-type data portion subsequent to communication upon the second channel; and

estimating the channel phase responsive to values of the representations of both the first data-type portion and the second data-type portion.

14. The method of claim 13 wherein the communication system comprises a radio communication system which defines a pilot channel and a MAC (Medium Access Control) channel, the pilot channel forming the first channel and the MAC channel forming the second channel, the first data-type portion formed of a pilot signal and the second data-type data portion formed of the MAC-data, and wherein the channel phase

estimate formed during said operation estimating is formed responsive to representations of both the pilot signal and the MAC-data.

15. The method of claim 14 wherein said operation of operating upon the indications of the first data-type portion further comprises the operation of weighting the indications of the pilot signal by a first selected weighting factor, the indications of the pilot signal, once weighted, forming the representation of the pilot signal.

16. The method of claim 15 wherein said operation of operating upon the indications of the second data-type portion further comprises the operation of weighting the indications of the MAC-data by a second selected weighting factor, the indications of the MAC-data signal, once weighted, forming the representation of the pilot signal.

17. The method of claim 16 further comprising the operation of selecting the first and second weighting factors, respectively, by which the indications of the pilot signal and of the MAC-data are weighted, respectively.

18. The method of claim 13 wherein the communication system comprises a cellular communication system operable pursuant to an IS-95 (Interim Standard – 1995) communication standard in which 1xEV-DO technology is deployed, wherein the first data-type portion communicated upon the first channel comprises a pilot signal communicated during a time slot defining a pilot channel, wherein the second data-type portion communicated upon the second channel comprises a MAC-data signal

communicated upon a MAC-data channel and wherein the channel phase estimate generated during said operation of estimating is formed responsive to values of the pilot signal and to values of the MAC-data signal.

19. The method of claim 18 wherein the representations of the MAC-data signal generated during said operation of operating upon the second data-type is free of values of the MAC-data.

20. The method of claim 19 wherein the first communication station comprises a network station, wherein the communication system further comprises a plurality of second communication stations, each of the second communication stations comprising a mobile station, and wherein the MAC-data signal comprises a plurality of MAC-data signal portions sent to a corresponding plurality of the mobile stations, and wherein the channel phase estimate formed during said operation of estimating is formed responsive to more than one of the MAC-data signal portions free of values of the MAC-data.